



## A STUDY OF TEACHERS' CONCEPTIONS AND PRACTICES OF CLASSROOM ASSESSMENT IN PUBLIC HIGH SCHOOLS OF PUNJAB

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**Abstract:** The study aimed to explore school teachers' self-reported conceptions and practices of classroom assessment. The data was collected through survey from 512 high school teachers working in four districts of Punjab. Conceptions of Assessment (COA) III Abridged survey (2002) developed by Brown and Assessment Practices Inventory developed by Mcmillan, Myran and Workman (2002) and modified by Brown (2009) were used to identify teachers' conceptions and practices regarding classroom assessment. Data was analyzed through descriptive and inferential statistics. Results found that teachers' showed strong agreement towards improvement; school accountability and students' accountability conception of assessment whereas found disagreed to the conception that "assessment is irrelevant". Mutual correlation was observed among conceptions of assessment. Formal assessment types measuring surface level cognitive processing was the mostly used assessment formats among teachers, whereas informal assessments requiring deep cognitive processing of the information were found less in use. Conceptions and practices of assessment were not found strongly related. The study made a contribution to the understandings of school teachers regarding purposes and uses of assessment in the context of Pakistan having implication for the development of prospective teachers' conceptions and preferences for assessment practices.

**Key words:** Conceptions of Assessment; Assessment Practices Inventory; Secondary Education

### I. INTRODUCTION/BACKGROUND OF THE STUDY

The actions taken by people reflect their ideas and conceptions. These conceptions are developed as a result of learned values set by the society. The conceptions about an event or phenomena may include beliefs, meanings, concepts and preferences (Thompson, 1992). Teachers perform different actions as part of their duties of teaching and assessment. The way in which teachers perform these activities shows their inner concepts of teaching. The typical examples of teacher's beliefs are considered teacher's conceptions of teaching. Researchers' interest in exploring teacher's conceptions is about investigating their held beliefs for different segments of teaching (teaching methods, content, curriculum and assessment). Meta-analysis of studies aimed to explore university scholar's conceptions of teaching showed a positive link between conceptions of teaching and assessment of students' learning (Kember, 1997; Levitt, 2002; Olafson & Schraw, 2006). These conceptions influence the teaching strategies and teaching approaches which affect significantly students' learning styles and their achievement. The influence of conceptions is not confined to the teachers' teaching styles but caters other domains including assessment practices of teachers (Tittle, 1994; Borke, Mayfield, Marion, Flexer & Cumbo, 1997).

An assessment system has great importance for teaching and learning and therefore, considered to be a crucial component for an excellent educational system (Shing & Fai, 2007). These assessment events are arranged with the objective of sharing the learning experiences between students and teachers (Danielson, 2008; NCLB, 2001). It also helps to facilitate close interaction between teacher and the learner (Satterly, 1989 as cited in Shing and Fai, 2007). The approach teachers adopt for the selection and development of assessment techniques influences the way students carry out their academic tasks (James, 2002 as cited in CSHE, 2002). Seemingly, the effectiveness of instruction in a normal classroom is well depended on the quality of assessment (Stiggins, 1999).

Which assessment technique is selected and used by the teacher depends on the teacher's conception of how assessment is viewed. whereas teachers' held conceptions of assessment can be approached through

exploration of their agreement or disagreement with four purposes of assessment naming (a) improvement of teaching and learning, (b) school accountability, (c) student accountability, or (d) treating assessment as irrelevant (Brown, 2004). The attention towards teacher's conceptions of assessment is a sign of his self-regulation of assessment beliefs and practices (Brown, 2002).

Assuming the notion that teacher's teaching practices are influenced by their hidden concepts and lead towards variation of performed actions in reality. Brown (2003), investigated and found teachers as agreed to the belief that assessment may influence their teaching and student learning with significant improvement. A qualitative study conducted by Jane (2012) showed that teachers recognized assessment as a purposeful activity; however, these purposes may vary with regard to the pre-defined objective about students learning and assessment and affects classroom assessment practices as well.

While exploring the relationship between conceptions, Brown, (2004) explored them as being mutually correlated. He found that improvement and student accountability conceptions were directly and positively correlated to the school accountability conception of assessment. The conceptions of assessment are also influenced by the demographic variables. Peterson and Irving (2007) found significant differences of conceptions of assessment among primary and secondary school teachers. Conceptions of assessment are perceived differently in various regions of the world, for example review of studies by Aziz, (2012) found that the teachers in Hong Kong believed grading of students in exams as a source of anxiety and ego as well as a motivating factor for the development of strong self-image to work with responsibility in high stake exams. In contrast western countries do not consider these high stake exams positively. Eastern countries find these high stake exams as critical, so the teachers were found lacking with formative assessment techniques. Due to emphasis on public exams, student accountability would be considered well recognized among teachers (Brown et al, 2010).

Like variation in conceptions of assessment, studies found practices of assessment as varied among teachers. A study by McMillan, Myran and Workman (2002) in US to explore the grading and assessment practices of elementary school teachers found that faculty used objective type assessments more frequently than any other format. Data found that teachers also used performance assessment practices such as projects, presentations and essays while measuring higher order thinking and application by the students. His study reported that mere assessment of simple recall of the knowledge was the least focused cognitive demand by the faculty. However, teachers were found depending more on published assessment formats having formal type of assessment. Conceptions of assessment are developed by the culture of assessment held by an institution and the expectations of a particular society. It was found that policy requirements in different cultures develop varied conceptions among teachers. Thus, teachers working in assessment free schooling would probably hold conceptions of assessment as improvement oriented rather than any other conception of assessment (Brown, Hui and Kennedy, 2011). Consequently, it was assumed that teachers' conceptions are affected by the culture of a particular society, so they may differ in conceptions regarding assessment.

Considering the varied nature of conceptions, it is assumed that there is the possibility to have a different model of teachers' conceptions in different regions based on the notion of changed culture, assessment policies and demographic characteristics. Scholars predicted that it might be assumed that some factors may remain stable while expecting a varied relationship among factors (Brown et al., 2011; (Hamilton Healy, Dunstan, Zderic and Owen, 2008; Brown, lake and Matters, 2011; Brown and Gao, 2015).

Brown (2002), recommended following up the studies focusing investigation of teachers' conceptions of assessment among different populations across different cultural backgrounds (e.g. Maori, Pacific Nation, or Asian). These studies would be conducted on different levels in order to fully understand the similarities and differences of conceptions and assessment practices. Although studies measuring conceptions and practices of assessment were carried out in different regions like New Zealand, Queensland, Cyprus and Hong Kong but there exists a gap of studies to be conducted on the similar topic in the region of subcontinent as no work has been published based on teachers' conceptions of assessment using model developed by Brown (2002). This study is designed to explore high school teachers' conceptions and practices of classroom assessment in the Pakistani society.

## 1.1 Assessment in Pakistani context

In Pakistan, Secondary school education is categorized as grade 9 and 10 with a duration of two years. The secondary level students are taught and prepared for two high stake public exams. Other than these two high stake public exams, the students are regularly assessed by the schools through term exams and weekly tests. According to the National Education Policy of Pakistan (2009), it has been emphasized for having an assessment system capable of changing the present class room's assessment scenario with higher level of achievements in standardized testing methods. It was recommended in the policy that assessment systems are required to use assessment strategies which would flourish a student's thinking and internal urge for developing self-governing motivation towards learning. These purposes are fulfilled through the use of assessment techniques capable of measuring higher order thinking skills. The teachers were supposed to use frequent assessments including formal and informal assessment procedures. Formative assessment combined with the high stake exams was encouraged for its implementation in classrooms.

Teachers along with scheduled and compulsory assessments in the form of term exams use a variety of formal and informal assessment procedures in classrooms in order to assess students for diagnostic and formative purposes. As a way of measuring student performance frequently, both science and arts subject teachers used various assessment practices including daily verbal presentations and weekly tests. Teachers reported that students are more concerned about their regular assessment when high stake exams are approaching.

Thomas (2012), found that teachers in Pakistan preferred student centered assessment techniques and have strong belief on its usefulness but in practice, even trained teachers were found to be lacked in using the skills of classroom assessment. Formative classroom assessment was found to be neglected as extra time was required for its development and administration. As formal assessment system is frequent in Pakistan therefore, teachers remain busy in such events while neglecting the assessments required for diagnosing student's knowledge and competencies in classrooms.

Research has demonstrated that teachers are found to be varied in the possession of these conceptions based on purposes of assessment in different regions. This study aimed to explore teachers' conceptions at secondary level in Pakistani society. The second variable is the use of assessment practices by teachers in classrooms. Practices are affected by the related concepts about particular construct such as assessment, so the purpose behind this project was to explore the relationship between conceptions and practices of classroom assessment by school teachers in Pakistan.

## II. PURPOSE OF THE STUDY

The main purpose of the study was to explore the nature of conceptions regarding assessment possessed by teachers at secondary level. These conceptions may be explored through identification of teachers' agreement or disagreement to the four purposes of classroom assessment. The second objective was to investigate the relationships between different conceptions of assessment held by teachers at secondary level. For the measurement of this purpose, Pearson product correlation may examine the possible relations among conceptions. Third objective focused to identify the assessment practices exercised by teachers at secondary level. Researchers utilized Assessment Practices Inventory to collect data regarding teachers' self-reported assessment practices in the classroom. Lastly, the study also aimed to examine the relationship between teachers' conceptions and practices of classroom assessment at secondary level. The variables of the study along with their measurement is described in the table below;

## III. RESEARCH QUESTIONS

1. What is the nature of teachers' conceptions of assessment working at secondary level?
  - a) Do teachers possess different conceptions regarding classroom assessment?
2. What type of assessment practices are used by teachers in their classrooms working at secondary level?

- a) Do teachers use assessment practices measuring different levels of cognitive ability?
  - b) Do teachers conduct assessment activities with different structure of formats?
3. Is there any relationship between practices and conceptions of assessment possessed by teachers at secondary level?
- a) Are there any links between teachers' conceptions and practices of classroom assessment in their classrooms?
4. What is the nature of relationship between individual teacher characteristics (i.e., gender, role, experience, assessment training) and teachers' conceptions of assessment?
5. Is there any relationship between individual teacher characteristics (i.e., gender, role, experience, assessment training) and teachers' practices of classroom assessment?

#### IV. RESEARCH METHODS

##### 4.1 Sample of the study

The survey explored secondary level high school teachers' conceptions and practices of assessment in four districts of Punjab (Lahore, Faisalabad, Gujranwala & Narowal). Two districts (Lahore, Faisalabad) were the most populated and developed whereas the rest two (Gujranwala, Narowal) were less populated and comparatively less developed areas of the province Punjab.

A total of 700 teachers completed the survey forms from which the data of 512 respondents was used for analysis. Missing value analysis was made using maximization modeling method whereas, the forms completed less than 90% were removed from the final analysis.

Proportionate cluster random sampling was used for the selection of sample (Lahore, Faisalabad, Gujranwala and Narowal), where schools were considered as a cluster. Overall 64 schools were selected randomly in which each district represented the desired proportion (4% male and 4% female) of teachers in the sample. The number of Schools (as clusters) was selected from each district until the desired number of teachers for that district was obtained.

##### 4.2 Instrumentation

For the measurement of teachers' conceptions and practices of assessment, two instruments naming "Conceptions of Assessment Abridged Survey (COA-III)" developed by Brown (2002) and Assessment Practices Inventory developed by Mcmillan et al., (2002) and modified by Brown (2009), were selected and used with author's kind permission. The instruments were selected based on the alignment of the instrument to the constructs being measured. Detail of the instruments is given as under;

###### 4.2.1 Conceptions of assessment abridged survey

The total scale was divided into four factors classified as school accountability, student accountability, improvement and irrelevance. Improvement and irrelevance conceptions also had sub factors. The sub factors of improvement were classified as improvement, student learning, teaching, describe and validity whereas the sub factors of irrelevance conception included assessment as bad, ignored and inaccurate. Each factor and sub factor was comprised of three statements. Composite mean scores adding the responses of three statements were computed and used for analysis.

The detail of the instrument as developed and applied by Brown (2002) and Sarah (2010) is reproduced in the following:

Table 1.COA (Conceptions of Assessment) III Survey Item Sub-Categories

Categories	Survey Items
<b>Irrelevance (Bad )</b>	Interferes with teaching unfair to students Forces against beliefs
<b>Irrelevance (Ignored)</b>	Filed and ignored Little use of results Little impact on teaching
<b>Irrelevance (Inaccurate)</b>	Imprecise process Measurement error Account error and imprecision
<b>Accountability Of Students</b>	Assign grade/level to work Meet qualification standards Place students into categories
<b>Accountability Of Schools</b>	Good way to evaluate school How well schools are doing Accurate indicator of school quality
<b>Improvement (Valid)</b>	Dependable Consistent Trustworthy
<b>Improvement (Describe)</b>	What learned Higher order thinking How much learned
<b>Improvement (Teaching)</b>	Modifies ongoing teaching Integrated with teaching Allows different instruction
<b>Improvement (Student Learning)</b>	Feedback about performance Informs of learning needs Helps improve

Adapted from Brown, (2007)

#### 4.2.2 Structure of the instruments

The questionnaire measuring conceptions of assessment consisted of two sections:

In the first part demographic information including background of the respondent (gender, years of experience, grade level, teaching assignment, level of education, and participation in assessment training) were asked. In the second part 27 items scored on a scale from 1 to 6 (1 = strongly disagree and 6 = strongly

agree) mainly addressing conceptions of assessment (assessment for improvement, assessment for student accountability, assessment for school accountability, and assessment is irrelevant) were asked. The response scale for measuring conceptions consisted of six positively arranged formats with only two negative and four positive response categories. This format is preferred when it is obvious that the subjects would have a positive attitude towards the concept (as cited in Brown, 2011).

#### 4.2.3 Psychometric Properties of the Instrument

The conceptions of assessment abridged survey was in fact extracted from a 50 item large scale developed as a result of Ph.D. research work of the author. In order to investigate whether the shorter version of conceptions of assessment abridged survey comprising 27 items measured the construct in the same way as the full scale consisting of 50 items. Brown (2006) explored the validity by comparing data from primary school teachers in New Zealand (n.525) and Queensland teachers (n.692). Three statements for each factor were selected carefully without elimination of any necessary relevant content item. Confirmatory Factor analysis was run to find the fit characteristics of the model. The item loadings for each factor were adequate and factor analysis showed significantly good fit characteristics ( $\chi^2 = 841.02$ ; RMSEA = .057; TLI = .87) (p. 169). The interfactor correlation values and paths were same as found in the full battery by the author (2004a). As a result, the abridged version was found reliable and was recommended by the author to be used for professional and research purposes (Brown, 2006). Reliability of the instrument was ensured through Cronbach alpha that was found .80.

#### 4.3.1 Assessment Practices Inventory

The second instrument for the measurement of practices of assessment initially developed by Mcmillan et al, (2002) and modified by Brown (2009), was selected and used in addition to the conceptions of assessment abridged survey. Brown (2009), examined the measurement model of the assessment practices inventory by using exploratory factor analysis. Through factor analysis items having poor fit were removed from the inventory where poor fit was identified when items had loading less than .3, had cross loading greater than .3 or found to have poor theoretical fit with the emerging factor. Finally, the practices of assessment inventory comprised of 16 items having good fit encompassing four types of assessment practices mainly addressing two types of formats used for assessment (formal and informal), and two for levels of cognitive processing of a given task (deep and surface). The overall reliability of the instrument for this study was found .86 through Cronbach alpha. A closed frequency scale ranging from (1= not at all to 6= always) as options to respond was used.

The detail of the inventory is given as under;

**Table 2. Concepts and Applications**

Categories	Survey Items
<b>Informal formats</b>	<ul style="list-style-type: none"> <li>• Performance based assessments</li> <li>• Oral presentations</li> <li>• Projects completed by teams of students</li> <li>• Projects completed by individual students</li> <li>• Performance on in class quizzes</li> <li>• Assessments that measure being able to use or apply the information students have</li> </ul>

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<b>Deep processing</b>	<ul style="list-style-type: none"> <li>• Assessments that measure whether students see things in a different and more meaningful way.</li>   <li>• Whether students can derive abstract principles from ideas or information.</li>   <li>• Students ability to understand relationships between ideas or information</li>   <li>• Whether students understand new material for themselves</li> </ul>
<b>Surface processing</b>	<ul style="list-style-type: none"> <li>• How well students remember things</li>   <li>• Ability to build up knowledge by getting facts and information</li> </ul>
<b>Formal formats</b>	<ul style="list-style-type: none"> <li>• Assessment provided by publishers or supplied to the teacher</li>   <li>• Essay type questions</li>   <li>• Objective type assessments</li>   <li>• Major exams or tests</li> </ul>

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Adapted from Brown (2009)

#### V. DATA COLLECTION AND ANALYSIS PROCEDURE

Formal permissions were taken from DPI schools and DEOs of the sampled districts for data collection. Researchers administered the survey forms to the teachers of high schools with the help of concerned school principals. Data was collected through personal visits of the researchers and research assistants. Data of teachers' conceptions and practices was analyzed through descriptive statistics, while correlation was used for the exploration of relationships between the two constructs.

#### VI. FINDINGS OF THE STUDY

Descriptive statistics revealed that teachers were mostly agreed to the first three conceptions of assessment named school accountability, student accountability and improvement as purposes of classroom assessment. Highest values (M.4.96, S.D. .78) (above mostly agree) were observed for student and school accountability, (M.4.96, S.D. .83) following improvement (M.4.9, S.D. .68) conception. It showed that teachers in Pakistan perceive assessment as a necessary component in teaching learning process. They view assessment as necessary for accountability purposes of schools and the students. Assessment for the purpose of improvement was also found to be accepted and regarded important. Least value was observed for irrelevance conception showing teachers disagreement.



**Table 3.Descriptive Statistics for Conceptions of Assessment among Teachers at Secondary Level**

Conception of assessment	Secondary	
	M	SD
School Accountability	4.96	.83
Student Accountability	4.96	.78
Improvement	4.90	.68
Irrelevance	3.58	.71

In order to observe the percentage of teachers falling into different levels of agreement towards the conceptions, Brown (2002) divided response categories into three levels. The mean values encompassing 1.00 to 2.99 was classified as strong disagreement whereas from 3.00 to 4.50 was taken as lower agreement. However, the mean value ranging from 4.51 to 6.00 was regarded as strong agreement of the respondents showed towards the measured conception. Frequency analysis discovered that more than three quarters of the total sample teachers were strongly agreed that assessment is necessary for school accountability, student accountability and all the sub factors of improvement conception including student learning, improve teaching and improve describe. Majority of teachers showed disagreement towards the fourth conception as "assessment is irrelevant". Only one sub factor of fourth conception classified as "assessment is inaccurate" was found to be strongly agreed by the teachers.

**Table 4.Descriptive Analysis for Level of Agreement**

Conceptions of assessment (secondary)	Disagree %	Low agree %	Strongly agree %
School accountability	2.3	23.3	74.4
Student accountability	1.6	22.3	76.2
Improve student learning	1.8	16.8	81.4
Improve teaching	1.4	21.1	77.5
Improve valid	4.5	45.8	49.7
Improve Describe	1.4	22.9	75.8
Irrelevance Bad	56.2	34.8	9
Irrelevance ignored	39.6	50.4	10
Irrelevance Inaccurate	2.1	32.2	65.6

Analysis using correlation revealed that conceptions of assessment are mutually correlated. School accountability conception was found to be strongly correlated with student accountability ( $r= 0.615$ ) and improvement ( $r= 0.700$ ) but almost had no correlation with irrelevance conception ( $r= 0.005$ ) of assessment. Student accountability was observed to be significantly correlated with improvement ( $r= 0.75$ ) and had no correlation with irrelevance ( $0.008$ ). Improvement found to be strongly correlated with all conceptions except irrelevance having weak negative correlation ( $r = - 0.06$ ).

**Table 5.Inter correlations of Conceptions of Assessment among Teachers at secondary Level**

Secondary		1	2	3	4
9-10	1.School accountability		.636**	.703**	.001
	2.Student accountability			.752**	.008





Student accountability	5.01(.80)	4.84(.85)	5.02(.68)	4.97(.77)	1.54	.20
Improvement	5.00(.66)	4.83(.72)	4.87(.60)	4.92(.72)	1.51	.21
Irrelevance	3.61(.68)	3.58(.64)	3.60(.85)	3.54(.69)	.214	.88

**Table 10. Anova for Type of Training in Assessment and Conceptions of Assessment among Teachers at Secondary Level**

Secondary	B.ed	M.ed	In service	Not at all	Anova F	p
	M(S.D)	M(S.D)	M(S.D)	M(S.D)		
School Accountability	4.94 (.84)	5.02(.80)	4.92(.84)	4.95(.88)	.45	.71
Student Accountability	4.92(.76)	5.02(.84)	4.88(.78)	5.04(.69)	.94	.41
Improvement	4.86(.67)	4.95(.72)	4.88(.66)	4.95(.62)	.59	.62
Irrelevance	3.59(.67)	3.52(.73)	3.61(.73)	3.75(.71)	1.23	.29

**Table 11. Anova for Experience and Difference of Conceptions among Teachers at Secondary Level**

Secondary	Novice	2 to 5 years	6 to 10 years	More than 10	Anova F	p
	M(S.D)	M(S.D)	M(S.D)	M(S.D)		
School Accountability	4.88 (.94)	4.92(.75)	5.10(.84)	4.97(.83)	.53	.66
Student Accountability	4.90(.75)	5.00(.74)	4.88(.97)	4.96(.78)	.25	.85
Improvement	4.75(.74)	4.86(.64)	4.93(.90)	4.94(.66)	1.13	.33
Irrelevance	3.58(.73)	3.58(.71)	3.50(.89)	3.59(.69)	.81	.48

## 6.1 Use of assessment practices

Descriptive analysis of the data regarding assessment practices revealed that teachers at secondary level use formal formats of assessment measuring surface processing of information frequently than informal formats measuring deep processing of information. The obtained mean score value was (M.4.18, S.D.0.9, the value above often use) whereas assessment practices requiring deep processing of the information as well as the use of informal assessment formats were found less in practice. The values (M. 3.94, S.D.0.85, the frequency value above occasionally) are low in comparison to the values found for formal formats and surface processing requirements.

## 6.2 Relationship of practices of assessment

At secondary level, the Pearson correlation coefficient reflected significant results of relationship for assessment practices. Informal assessment types were found to be strongly related with deep cognitive demands of processing with  $r= 0.71$ . Informal practices were found to be positively related with surface cognitive demands of the tasks with the value  $r= 0.65$ . Informal types of assessment were noticed under weak relationship with formal types having correlation of  $r= 0.44$ . The deep cognitive demands were observed to be positively correlated with surface processing ( $r= 0.67$ ) but weakly correlated with formal assessment types at  $r= 0.30$ .

**Table 13. Inter-correlations between Practices of Assessment at Secondary Level**

Secondary	1	2	3	4
1.informal formats		.714**	.654**	.448
2.deep			.679**	.309
3.surface				.310
4.formal				
Mean	3.92	3.94	4.1	4.0
S.D	.76	.85	.90	.64

### 6.3 Relationship of conceptions and practices of classroom assessment

With the aim to explore relationship between conceptions and practices of assessment, Pearson correlation was employed. It showed that informal types of assessment moderately correlated with school accountability ( $r= 0.37$ ) and improvement conception of assessment ( $r= 0.35$ ), however it had weak correlation with student accountability ( $r= 0.26$ ). It was shown that teachers did not use informal assessment practices for student accountability but for school accountability and improvement purpose. It was also found that informal types had no correlation with irrelevance conception which again validated the finding of low agreement found for irrelevance conception of assessment.

Deep processing assessments were observed to be moderately related with student accountability ( $r= 0.30$ ) and improvement ( $r= 0.32$ ) conception but weakly correlated to school accountability ( $r= 0.24$ ) conception of assessment. It showed that teachers' use of assessment practices measuring deep as well as surface processing of information were moderately positively correlated with school accountability ( $r= 0.39$ ), student accountability ( $r= 0.34$ ) and improvement ( $r= 0.37$ ) conception, however it had nil correlation with irrelevance conception of assessment. Weak correlation was found between formal assessment formats and all conceptions of assessment.

**Table 14. Inter Correlations between Types of Assessment Practices and Conceptions of Assessment at Secondary Level**

Secondary	School Accountability	Student Accountability	Improvement	Irrelevance
1.informal formats	.372	.268**	.353**	.167
2.deep	.248	.308	.324**	.133
3.surface	.393	.349	.370	.033
4.formal	.204	.246	.227	.264

### 6.4 Demographic variables and practices of assessment

Inferential statistics revealed no significant differences of assessment practices among teachers having varied level of qualification, gender, location of the school, training in assessment, teaching assignment and experience.

## VII. DISCUSSION

The study explored four conceptions of assessment as intended purposes of classroom assessment as well as the self-reported assessment practices of teachers in Pakistani schools. Findings revealed that teachers showed strong agreement towards improvement and accountability purposes of assessment in classroom, demonstrating the fact that they possess positive attitude towards assessment as important activity in educational process. These findings are similar to those of Brown (2002) in New Zealand and Sarah (2010) in US who found teachers positive attitude towards improvement and accountability conceptions of assessment.

Therefore it is concluded that major perceptions of Pakistani teachers are not different from teachers of other regions. In the same manner, teachers' conception about accountability purposes of assessment are not different to those found by Brown, (2002), Sarah, (2010), Brown, Chaudhary and Dhamija (2015) and Brown & Remesal (2012). This similarity of the results might be due to the studies carried out on secondary level school teachers where high stake exams are necessary and put accountability pressure over schools and students as well.

The fourth conception "assessment is irrelevant" was found to be strongly disagreed by the majority of teachers except for one sub-factor of the conception that "assessment is inaccurate" where teachers communicated a sign of strong agreement. The results are not in contradiction to the findings reported by Sara (2010), Khan (2011), and Brown (2002), where least mean scores were found for irrelevance conception. The only parameter which contradicts with the findings of Brown, (2002) and Sarah, (2010) is the teachers' strong agreement to the sub factor of irrelevance conception named "assessment is inaccurate" which was observed. The explanation of this finding might be the cultural difference of Pakistani educational system where transparency of assessment particularly in high stake exams has been a major issue that develops such conceptions.

Conceptions of assessment are found mutually correlated as school accountability conception positively correlated to student accountability and improvement conception (Gebriel & Brown, 2014; Barnes et al, 2017). Zero relationship was explored between school accountability conception and irrelevance conception of assessment, whereas inverse relationship was discovered between improvement and irrelevance conception of assessment. The results obtained through Pearson correlation in present study were found quite similar to those reported by Sarah (2010). Sarah (2010), reported improvement conception as moderately positively correlated to school accountability conception. Brown (2002), discovered that three out of four conceptions are mutually positively correlated. There is a pattern of correlation found in the results as teachers who viewed assessment for accountability purposes also perceive it necessary to bring improvement for teachers and students as well. It exhibits the fact that improvement oriented faculty are opposed to the view of assessment as irrelevant, which is quite logical.

Demographic variables including gender, qualification, location, experience, teaching assignments and assessment training were also investigated. The study found no significant differences of conceptions as affected by such independent variables. The results were found to be similar when compared with the results reported by Brown (2002) and Sarah (2010) who also reported no significant differences for conceptions influenced by demographic variables. The only difference was observed in the study by Sarah (2010), which found graduate teachers being higher for the conception of assessment for student accountability compared to the teachers with post graduate degrees.

It was observed that teachers used formal assessment formats to measure surface level cognitive processing with dominant frequency as compared to informal assessment formats focusing deep level cognitive processing. The results are dissimilar to the findings explored in a study by McMillan (2002), conducted in the US on elementary level teachers where teachers found objective assessment most often along with the use of informal assessments such as projects, presentations and essays etc. Such contradiction in results might also be explained due to the difference of level as teachers are free to use informal assessments at elementary level as compared to secondary level. Secondary level is characterized with the preparation of high stake public exams so teachers may feel pressure of assessing students through formal assessment formats in order to acquaint them for the public exams.

Practices of assessment also found to be mutually related as informal assessment types were experienced to be strongly correlated with deep as well as surface cognitive demands of processing inferring that teachers use informal formats of assessment to measure both levels of cognitive processing. Relationship between conceptions and practices as explored and discussed in findings showed that the constructs are not strongly correlated with each other as the degree of relationships ranged between nil to weak. Deep and surface processing assessment practices reflected moderate correlations to school accountability, student accountability and improvement conception. It was concluded that informal format correlated positively to school accountability but weakly with student accountability and improvement conception. It showed that teachers perceive the use of informal assessment types for the accountability of school but not for students.

Formal assessment types had weak correlations to all conceptions of assessment. None of the assessment practices were observed to be as correlated with irrelevance conception except for formal assessment types which were found weakly related to irrelevance. Approximately, similar kind of weak relationships were experienced by Brown (2002), where no significant correlations were found between assessment practices and conceptions of assessment. Deep and informal practices were correlated significantly with improvement (student learning, teaching) conception. Formal practices were found strongly related with student accountability following school accountability and improvement (valid) conceptions. All assessment practices had zero correlation to irrelevance conception except for deep practices configured at weak negative correlation to assessment (inaccurate).

## VIII. CONCLUSIONS

The study found teachers being agreed to improvement and accountability conceptions of assessment while showing disagreement to irrelevance conception of assessment. It shows teachers' concern to hold assessment events necessary for students' wellbeing in schools. The findings indicate the alignment of teachers' perceptions to school policies focusing assessment in order to prepare students for high stake exams. Therefore, it is concluded that teachers in Pakistan are well aware of the need of assessment to bring improvement in student' learning as well as making them accountable for their performance. The teachers also showed strong agreement to one sub factor of irrelevance conception as "assessment is inaccurate". The explanation of this finding might be the cultural difference of Pakistani educational system where transparency of assessment particularly in high stake exams has been a major issue that develops such conceptions.

We found teachers' conceptions as mutually related. The relationship revealed a positive correlation between accountability and improvement conceptions which is again upto the logic validating the finding that teachers find assessment as good enough for improvement and accountability of students. Seemingly, we found inverse relationship between improvement and irrelevance conceptions. It validates the results that teachers who find assessment necessary are opposed to take it as irrelevant activity.

Study found that teachers used formal assessment formats to measure surface level cognitive processing with dominant frequency as compared to informal assessment formats measuring deep level cognitive processing. It shows the situation of Pakistani schools where teachers prepare their students while making them familiarize to the assessment formats used in high stake exams. Relationship between conceptions and practices as explored and discussed in findings showed that the constructs are not strongly correlated with each other as the degree of relationships ranged between nil to weak. It expresses the fact that inspite of having worthwhile conceptions, it is not necessary that teachers use assessment practices corresponding to those conceptions. This finding seems to be aligned to the public school scenarios focusing assessment for exam preparation and not for providing deep exposure to assessment regime.

Demographic variables including gender, qualification, location, experience, teaching assignments and assessment training were also analyzed. The study found no significant differences of conceptions and practices as affected by such independent variables.

## IX. IMPLICATIONS

The results of this project would have implications for policy makers, teacher education programs and agencies responsible for in service teacher trainings at school level.

It is suggested that policies regarding assessment mechanism at school level may work efficiently if integrated with teacher's held conceptions about assessment. Knowledge of teacher's held conceptions would be integrated in the curriculum of teacher education programs so that teacher trainees would learn and develop their own conceptions of assessment and work accordingly.

Teacher's agreement towards accountability conceptions showed that they held the belief to evaluate the school or students by the results reflected through internal and external exam events. In Pakistan, it has been observed that school efficiency is evaluated on the basis of its results presented, thus it may be worthwhile to strengthen teacher's skills in the area of assessment through in-service trainings and enhancement of qualification.

Teachers showed strong agreement that assessment is inaccurate, such findings may be due to the belief that assessment results are not transparent and do not depict student's real ability. On the basis of such findings, it may be suggested to agencies responsible for assessment to bring transparency in the system through validating every step of assessment.

The study also found that training in assessment contributes a positive effect on the use of informal types of assessment requiring deep cognitive processing. It is, therefore, suggested to maintain continuous training of school teachers under the umbrella of DSD (Directorate of Staff Development) or other agencies working in the area of assessment.

Most dominant assessment practices used in classrooms were found to be the formal followed by the use of surface level cognitive processing which may be due to the pressure of board exams at grade 9 and 10. It is suggested that assessment policies at secondary level may adhere to the use of informal and deep processing assessment practices in the classroom so that students would have a chance to perform effectively.

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